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L3: Entry 3 of 53 File: USPT Aug 22, 2000

US-PAT-NO: 6106871
DOCUMENT-IDENTIFIER: US 6106871 A

TITLE: Method for increasing milk production in lactating dairy cattle

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miller; Bryan Gene	Pine Bush	NY	N/A	N/A

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Balchem Corporation	Slate Hill	NY	N/A	N/A	02

APPL-NO: 9/ 363182
DATE FILED: July 29, 1999

PARENT-CASE:
Benefit of the Aug. 6, 1998 filing date of the provisional application Ser. No. 60/095,441 by the same inventor and entitled "Method For Increasing Milk Production In Lactating Dairy Cattle" is hereby claimed.

INT-CL: [7] A23K 1/00
US-CL-ISSUED: 426/2; 426/98, 426/648, 426/807
US-CL-CURRENT: 426/2; 426/648, 426/807, 426/98
FIELD-OF-SEARCH: 426/2, 426/648, 426/98, 426/807

REF-CITED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5145695	September 1992	Smith et al.	426/2
☐	5204029	April 1993	Morgan et al.	264/4.4
☐	5310555	May 1994	Zimmer	424/438
☐	5496571	March 1996	Blagdon et al.	426/2
☐	5501857	March 1996	Zimmer	424/438
☐	5571527	November 1996	Nishimura et al.	424/438
☐	5633004	May 1997	Nishimura et al.	424/438
☐	5635198	June 1997	Nishimura et al.	424/438
☐	5686125	November 1997	Mueller	426/74
☐	5807594	September 1998	King et al.	N/A
☐	6022566	February 2000	Miller	426/2

OTHER PUBLICATIONS

K.B.Atkins, R.A. Erdman and J.H. Vandersall, Dietary Choline Effects on Milk Yield and Duodenal Choline Flow in Dairy Cattle, Journal of Dairy Science, vol. 71, pp. 109-116, 1988.
B.K. Sharma and R.A. Erdman, Effects of High Amounts of Dietary Choline Supplementation on Duodenal Choline Flow and Production Responses of Dairy Cows, Journal of Dairy Science, vol. 71, No. 10, pp. 2670-2676, 1988.
R.A. Erdman and B.K. Sharma, Effect of Dietary Rumen-Protected Choline in Lactating Dairy Cows, Journal of Dairy Science, vol. 74, pp. 1641-1647, 1991.
B.K. Sharma and R.A. Erdman, Effects of Dietary and Abomasally Infused Choline on Milk Production Responses of Lactating Dairy Cows, American Institute of Nutrition, pp. 248-254, 1988.
B.K. Sharma and R.A. Erdman, Abomasal Infusion of Choline and Methionine With Or Without 2-Amino-2-Methyl-1-Propanol for Lactating Dairy Cows, Journal of Dairy Science, vol. 71, pp. 2406-2411, 1988.
R.A. Erdman, R.D. Shaver and J.H. Vandersall, Dietary Choline for the Lactating Cow: Possible Effects on Milk Fat Synethsis, Journal of Dairy Science, vol. 67, pp. 410-415, 1984.
A. Dicostanza and J. N. Spain, "Effect of Rumen Protected Choline or Methionine on Lactational Performance and Blood Metabolites of Periparturine Holsteins" Journal of Dairy Science, vol. 78, No. Supplement 1, p. 188, XP-002121789, 1995.

ART-UNIT: 171
PRIMARY-EXAMINER: Sayala; Chhaya D.
ATTY-AGENT-FIRM: Banner & Witcoff, Ltd.

ABSTRACT:

A method increasing milk production in lactating dairy cattle by administering to prepartum cattle a rumen-protected choline compound.

12 Claims, 0 Drawing figures

L1: Entry 13 of 53 File: USPT Sep 29, 1998

US-PAT-NO: 5814603
DOCUMENT-IDENTIFIER: US 5814603 A

TITLE: Compounds with PTH activity

DATE-ISSUED: September 29, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Oldenburg; Kevin R.	Fremont	CA	N/A	N/A
Selick; Harold E.	Belmont	CA	N/A	N/A

US-CL-CURRENT: 514/12; 530/399, 530/402

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 14. Document ID: US 5811264 A

L1: Entry 14 of 53 File: USPT Sep 22, 1998

US-PAT-NO: 5811264
DOCUMENT-IDENTIFIER: US 5811264 A

TITLE: Proteins with mutations to decrease N-terminal methylation

DATE-ISSUED: September 22, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Aitken; Jacqueline F.	Louisville	CO	N/A	N/A
Apostol; Izydor Z.	Boulder	CO	N/A	N/A
Lippincott; Julie A.	Boulder	CO	N/A	N/A
Levine; Joseph D.	Louisville	CO	N/A	N/A

US-CL-CURRENT: 435/69.1; 514/12, 530/350, 530/385

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 15. Document ID: US 5741518 A

L1: Entry 15 of 53 File: USPT Apr 21, 1998

US-PAT-NO: 5741518
DOCUMENT-IDENTIFIER: US 5741518 A

TITLE: Composition composed of an aqueous dispersion of stabilized vesicles of nonionic amphiphilic lipids

DATE-ISSUED: April 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ribier; Alain	Paris	N/A	N/A	FRX
Simonnet; Jean-Thierry	Paris	N/A	N/A	FRX
Handjani; Rose-Marie	Paris	N/A	N/A	FRX
Terren; Nadia	Chevilly-Larue	N/A	N/A	FRX

US-CL-CURRENT: 424/450; 424/401, 428/402.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. Desc | Image

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☐ 16. Document ID: US 5741506 A

L1: Entry 16 of 53 File: USPT Apr 21, 1998

US-PAT-NO: 5741506
DOCUMENT-IDENTIFIER: US 5741506 A

TITLE: Use of active ingredients protected against degradation in the rumen as hepatoprotectors

DATE-ISSUED: April 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bauchart; Dominique	Veyre-Monton	N/A	N/A	FRX
Chilliard; Yves	Ceyrat	N/A	N/A	FRX
Durand; Denys	Beaumont	N/A	N/A	FRX
Gruffat; Dominique	Clermont-Ferrand	N/A	N/A	FRX
Ollier; Alain	Saint Genes Champanelle	N/A	N/A	FRX
Robert; Jean-Claude	Neris les Bains	N/A	N/A	FRX
Williams; Peter	Le Chesnay	N/A	N/A	FRX

US-CL-CURRENT: 424/439; 424/438, 426/807

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. Desc | Image

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☐ 17. Document ID: US 5739281 A

L1: Entry 17 of 53 File: USPT Apr 14, 1998

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Search Results - Record(s) 11 through 20 of 53 returned.

☐ 11. Document ID: US 5866158 A

L1: Entry 11 of 53 File: USPT Feb 2, 1999

US-PAT-NO: 5866158
DOCUMENT-IDENTIFIER: US 5866158 A

TITLE: Composition composed of an aqueous dispersion of stabilized vesicles of nonionic amphiphilic lipids

DATE-ISSUED: February 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ribier; Alain	Paris	N/A	N/A	FRX
Simonnet; Jean-Thierry	Paris	N/A	N/A	FRX
Handjani; Rose-Marie	Paris	N/A	N/A	FRX
Terren; Nadia	Chevilly-Larue	N/A	N/A	FRX

US-CL-CURRENT: 424/450; 424/401, 428/402.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 12. Document ID: US 5824355 A

L1: Entry 12 of 53 File: USPT Oct 20, 1998

US-PAT-NO: 5824355
DOCUMENT-IDENTIFIER: US 5824355 A

TITLE: Method for manufacturing protein protected ruminant feed

DATE-ISSUED: October 20, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heitritter; Glen V.	Omaha	NE	N/A	N/A
Yeates; James B.	Fort Calhoun	NE	N/A	N/A
Huffman; Phillip L.	Omaha	NE	N/A	N/A

US-CL-CURRENT: 426/459; 426/465, 426/509, 426/630, 426/807

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 13. Document ID: US 5814603 A

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Search Results - Record(s) 1 through 10 of 53 returned.

☐ 1. Document ID: US 6183786 B1

L1: Entry 1 of 53 File: USPT Feb 6, 2001

US-PAT-NO: 6183786
DOCUMENT-IDENTIFIER: US 6183786 B1

TITLE: Process for optimizing milk production

DATE-ISSUED: February 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Knight; Christopher D.	St. Louis	MO	N/A	N/A
Koenig; Karen M.	Lethbridge	N/A	N/A	CAX
Rode; Lyle M.	Lethbridge	N/A	N/A	CAX
Vandenberg; Michael J.	St. Louis	MO	N/A	N/A
Vazquez-Anon; Mercedes	Chesterfield	MO	N/A	N/A

US-CL-CURRENT: 426/2; 426/231, 426/438, 426/623, 426/630, 426/636, 426/807

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 6140071 A

L1: Entry 2 of 53 File: USPT Oct 31, 2000

US-PAT-NO: 6140071
DOCUMENT-IDENTIFIER: US 6140071 A

TITLE: Proteins with mutations to decrease N-terminal methylation

DATE-ISSUED: October 31, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Aitken; Jacqueline F.	Louisville	CO	N/A	N/A
Apostol; Izydor Z.	Boulder	CO	N/A	N/A
Lippincott; Julie A.	Boulder	CO	N/A	N/A
Levine; Joseph D.	Louisville	CO	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/440, 435/91.2, 435/91.5, 530/350, 530/385

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

US-PAT-NO: 5728675
DOCUMENT-IDENTIFIER: US 5728675 A

TITLE: Antemortem nutrient supplement for livestock

DATE-ISSUED: March 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schaefer; Allan L.	Lacombe	N/A	N/A	CAX
Jones; Stephen D. Morgan	Lacombe	N/A	N/A	CAX
Stanley; Richard W.	Red Deer	N/A	N/A	CAX
Turnbull; Ian K. S.	Lacombe	N/A	N/A	CAX
Johanns; John R.	Grand Island	NE	N/A	N/A

US-CL-CURRENT: 514/2; 514/23, 514/458, 514/474, 514/561

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 20. Document ID: US 5720970 A

L1: Entry 20 of 53 File: USPT Feb 24, 1998

US-PAT-NO: 5720970
DOCUMENT-IDENTIFIER: US 5720970 A

TITLE: Method for supplementing amino acid levels in ruminant animals

DATE-ISSUED: February 24, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rode; Lyle M.	Lethbridge	N/A	N/A	CAX
Julien; William E.	Omaha	NE	N/A	N/A
Sato; Hiroyuki	Kawasaki	N/A	N/A	JPX
Fujieda; Takeshi	Kawasaki	N/A	N/A	JPX
Suzuki; Hiroyuki	Urbana	IL	N/A	N/A

US-CL-CURRENT: 424/438; 426/807

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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Generate Collection

US-PAT-NO: 5739281
DOCUMENT-IDENTIFIER: US 5739281 A

TITLE: Interative method of at least three cycles for the refolding of proteins

DATE-ISSUED: April 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Th.o slashed.gersen; Hans Christian	Mundelstrup	N/A	N/A	DKX
Holtet; Thor Lns	Aarhus V	N/A	N/A	DKX
Etzerodt; Michael	Hinnerup	N/A	N/A	DKX

US-CL-CURRENT: 530/350; 435/183, 530/384, 530/387.3, 530/402, 530/412, 530/427

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 18. Document ID: US 5738866 A

L1: Entry 18 of 53 File: USPT Apr 14, 1998

US-PAT-NO: 5738866
DOCUMENT-IDENTIFIER: US 5738866 A

TITLE: Method for achieving the same level of milk and milk component yield in ruminants fed a low crude protein diet

DATE-ISSUED: April 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lanter; Kent J.	Waterloo	IL	N/A	N/A
Weakley; David C.	Eureka	MO	N/A	N/A

US-CL-CURRENT: 424/442

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 19. Document ID: US 5728675 A

L1: Entry 19 of 53 File: USPT Mar 17, 1998

US-PAT-NO: 5871773
DOCUMENT-IDENTIFIER: US 5871773 A

TITLE: Method for supplementing amino acid levels in ruminant animals

DATE-ISSUED: February 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rode; Lyle M.	Lethbridge	N/A	N/A	CAX
Julien; William E.	Omaha	NE	N/A	N/A
Sato; Hiroyuki	Kawasaki	N/A	N/A	JPX
Fujieda; Takeshi	Kawasaki	N/A	N/A	JPX
Suzuki; Hiroyuki	Urbana	IL	N/A	N/A

US-CL-CURRENT: 424/438; 426/807

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Term	Documents
METHIONINE.USPT.	19076
METHIONINES.USPT.	334
RUMINANT.USPT.	1584
RUMINANTS.USPT.	1775
BOVINE.USPT.	38987
BOVINES.USPT.	627
MAMMAL.USPT.	26650
MAMMALS.USPT.	33781
COW.USPT.	6146
COWS.USPT.	5470
(((METHIONINE SAME (RUMINANT OR BOVINE OR MAMMAL OR COW)) AND RATION)).USPT.	53

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Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 8. Document ID: US 5888506 A

L1: Entry 8 of 53 File: USPT Mar 30, 1999

US-PAT-NO: 5888506
DOCUMENT-IDENTIFIER: US 5888506 A

TITLE: Methioninase formulations

DATE-ISSUED: March 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tan; Yuying	San Diego	CA	N/A	N/A

US-CL-CURRENT: 424/94.5; 424/94.2, 435/188, 435/232

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 9. Document ID: US 5885610 A

L1: Entry 9 of 53 File: USPT Mar 23, 1999

US-PAT-NO: 5885610
DOCUMENT-IDENTIFIER: US 5885610 A

TITLE: By-pass rumen product

DATE-ISSUED: March 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Anderson; Michael D.	Eden Prairie	MN	N/A	N/A

US-CL-CURRENT: 424/438; 424/442, 424/489, 426/807, 514/562, 514/564

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

☐ 10. Document ID: US 5871773 A

L1: Entry 10 of 53 File: USPT Feb 16, 1999

US-PAT-NO: 6017563
DOCUMENT-IDENTIFIER: US 6017563 A

TITLE: Process for optimizing milk production

DATE-ISSUED: January 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Knight; Christopher D.	St. Louis	MO	N/A	N/A
Koenig; Karen M.	Lethbridge	N/A	N/A	CAX
Rode; Lyle M.	Lethbridge	N/A	N/A	CAX
Vandenberg; Michael J.	St. Louis	MO	N/A	N/A
Vazquez-Anon; Mercedes	Chesterfield	MO	N/A	N/A

US-CL-CURRENT: 426/2; 424/438, 426/231, 426/635, 426/807

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. Desc | Image

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☐ 6. Document ID: US 5919499 A

L1: Entry 6 of 53 File: USPT Jul 6, 1999

US-PAT-NO: 5919499
DOCUMENT-IDENTIFIER: US 5919499 A

TITLE: Aiding fermentation digestion and metabolism in mammals

DATE-ISSUED: July 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lawley; C. Murrell	Modesto	CA	N/A	N/A

US-CL-CURRENT: 426/2; 424/442, 426/72

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw. Desc | Image

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☐ 7. Document ID: US 5891704 A

L1: Entry 7 of 53 File: USPT Apr 6, 1999

US-PAT-NO: 5891704
DOCUMENT-IDENTIFIER: US 5891704 A

TITLE: Method to produce high levels of methioninase

DATE-ISSUED: April 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yuying; Tan	San Diego	CA	N/A	N/A

US-CL-CURRENT: 435/232; 435/252.3, 435/252.33, 435/320.1, 435/4, 435/7.2, 435/7.32

☐ 3. Document ID: US 6106871 A

L1: Entry 3 of 53 File: USPT Aug 22, 2000

US-PAT-NO: 6106871
DOCUMENT-IDENTIFIER: US 6106871 A

TITLE: Method for increasing milk production in lactating dairy cattle

DATE-ISSUED: August 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miller; Bryan Gene	Pine Bush	NY	N/A	N/A

US-CL-CURRENT: 426/2; 426/648, 426/807, 426/98

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 4. Document ID: US 6051250 A

L1: Entry 4 of 53 File: USPT Apr 18, 2000

US-PAT-NO: 6051250
DOCUMENT-IDENTIFIER: US 6051250 A

TITLE: Process for the stabilization of vesicles of amphiphilic lipid(s) and composition for topical application containing the said stabilized vesicles

DATE-ISSUED: April 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ribier; Alain	Paris	N/A	N/A	FRX
Simonnet; Jean-Thierry	Paris	N/A	N/A	FRX

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3, 428/402.2, 514/844

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw Desc | Image

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☐ 5. Document ID: US 6017563 A

L1: Entry 5 of 53 File: USPT Jan 25, 2000

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L1: Entry 1 of 1 File: USPT Feb 6, 2001

US-PAT-NO: 6183786
DOCUMENT-IDENTIFIER: US 6183786 B1

TITLE: Process for optimizing milk production

DATE-ISSUED: February 6, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Knight; Christopher D.	St. Louis	MO	N/A	N/A
Koenig; Karen M.	Lethbridge	N/A	N/A	CAX
Rode; Lyle M.	Lethbridge	N/A	N/A	CAX
Vandenberg; Michael J.	St. Louis	MO	N/A	N/A
Vazquez-Anon; Mercedes	Chesterfield	MO	N/A	N/A

US-CL-CURRENT: 426/2; 426/231, 426/438, 426/623, 426/630, 426/636, 426/807

CLAIMS:

We claim:
1. A process for formulating a ruminant food ration, the process comprising:
determining the methionine needs of the ruminant,
identifying a plurality of natural or synthetic feed ingredients and the nutrient composition of each of said ingredients wherein one of said ingredients is a hydroxy analog of methionine selected from the group consisting of
2-hydroxy-4-(methylthio)butanoic acid, ammonium salts of
2-hydroxy-4-(methylthio)butanoic acid, alkaline earth salts of
2-hydroxy-4-(methylthio)butanoic acid, alkali earth salts of
2-hydroxy-4-(methylthio)butanoic acid, zinc salts of
2-hydroxy-4-(methylthio)butanoic acid, alkane esters of
2-hydroxy-4-(methylthio)butanoic acid, alkane amides of
2-hydroxy-4-(methylthio)butanoic acid, and oligimers of
2-hydroxy-4-(methylthio)butanoic acid, and
formulating a ration from the identified feed ingredients to meet the determined methionine needs of the ruminant which comprises one or more grains, the hydroxy analog of methionine, and optionally a bypass fat wherein (i) the hydroxy analog of methionine is added separately from any bypass fat which is included in the ration, and (ii) the ration is formulated on the basis that at least 20% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
2. The process of claim 1 wherein the hydroxy analog of methionine is a salt of 2-hydroxy-4-(methylthio)butanoic acid selected from the group consisting of ammonium, magnesium, calcium, lithium, sodium, potassium, and zinc.
3. The process of claim 1 wherein the hydroxy analog of methionine is a ester of 2-hydroxy-4-(methylthio)butanoic acid selected from the group consisting of methyl, ethyl, 2-propyl, butyl, and 3-methylbutyl.
4. The process of claim 1 wherein the hydroxy analog of methionine is an amide of 2-hydroxy-4-(methylthio)butanoic acid selected from the group consisting of methylamide, dimethylamide, ethylmethylamide, butylamide, dibutylamide, and butylmethylamide.
5. The process of claim 1 wherein the ration is formulated on the basis that at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

6. The process of claim 1 wherein the ration does not comprise a bypass fat.
7. A process for formulating a ruminant food ration, the process comprising:
determining the methionine needs of the ruminant,
identifying a plurality of natural or synthetic feed ingredients and the nutrient composition of each of said ingredients wherein one of said ingredients is a hydroxy analog of methionine selected from the group consisting of
2-hydroxy-4-(methylthio)butanoic acid, ammonium salts of
2-hydroxy-4-(methylthio)butanoic acid, alkaline earth salts of
2-hydroxy-4-(methylthio)butanoic acid, alkali earth salts of
2-hydroxy-4-(methylthio)butanoic acid, zinc salts of
2-hydroxy-4-(methylthio)butanoic acid, alkane esters of
2-hydroxy-4-(methylthio)butanoic acid, alkane amides of
2-hydroxy-4-(methylthio)butanoic acid, and oligimers of
2-hydroxy-4-(methylthio)butanoic acid, and
formulating a ration from the identified feed ingredients to meet the determined methionine needs of the ruminant which comprises mixing one or more grains with the hydroxy analog of methionine, wherein (i) the ration is formulated on the basis that at least 20% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant, and (ii) the ration does not comprise a bypass fat.
8. The process of claim 7 wherein the ration is formulated on the basis that at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
9. A process for formulating a ruminant food ration, the process comprising:
determining the methionine needs of the ruminant using a nutritional model wherein the nutritional model is a computer program,
identifying a plurality of natural or synthetic feed ingredients and the nutrient composition of each of said ingredients wherein one of said ingredients is a hydroxy analog of methionine selected from the group consisting of
2-hydroxy-4-(methylthio)butanoic acid, ammonium salts of
2-hydroxy-4-(methylthio)butanoic acid, alkaline earth salts of
2-hydroxy-4-(methylthio)butanoic acid, alkali earth salts of
2-hydroxy-4-(methylthio)butanoic acid, zinc salts of
2-hydroxy-4-(methylthio)butanoic acid, alkane esters of
2-hydroxy-4-(methylthio)butanoic acid, alkane amides of
2-hydroxy-4-(methylthio)butanoic acid, and oligimers of
2-hydroxy-4-(methylthio)butanoic acid, and
using the nutritional model to formulate a ration from the identified feed ingredients to meet the determined methionine needs of the ruminant which comprises mixing one or more grains with the hydroxy analog of methionine, wherein (i) the ration is formulated on the basis that at least 20% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant, and (ii) the ration does not comprise a bypass fat.
10. The process of claim 9 wherein the ration is formulated on the basis that at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
11. The process of claim 9 wherein the ration is formulated on the basis that between about 40% and about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
12. A ruminant feed ration for a ruminant, the ration comprising:
a plurality of natural or synthetic feed ingredients which comprises one or more grains;
a hydroxy analog of methionine selected from the group consisting of
2-hydroxy-4-(methylthio)butanoic acid, salts, amides and esters thereof;
and, optionally a bypass fat;
wherein the amount of hydroxy analog of methionine is included within the ruminant feed ration at a level determined to be necessary to meet the methionine requirements of the ruminant, said methionine requirements being determined from the nutritional content of the ingredients other than the hydroxy analog of methionine and on the basis that at least 20% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
13. The ruminant feed ration of claim 12 wherein the hydroxy analog of methionine is 2-hydroxy-4-(methylthio)butanoic acid.
14. The ruminant feed ration of claim 12 wherein at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
15. The ruminant feed ration of claim 12 wherein the hydroxy analog of methionine is 2-hydroxy-4-(methylthio)butanoic acid and that at least 40% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.
16. The ruminant feed ration of claim 12 wherein the hydroxy analog of methionine

is 2-hydroxy-4-(methylthio)butanoic acid and that about 40% to about 55% of the hydroxy analog of methionine is assumed to be available for absorption by the ruminant.

17. The ruminant feed ration in any of claims 12-16 wherein the ruminant feed ration does not comprise a bypass fat.

18. The ruminant feed ration of claim 12 wherein the amount of the hydroxy analog of methionine is determined by a nutritional model wherein the nutritional model is a computer program.

WEST

Searches for User *nbhat* (Count = 864)

Queries 815 through 864.

S #	Updt	Database	Query	Time	Comment
S864	U	USPT	(methionine same (ruminant or bovine or mammal or cow)) and ration	2001-02-11 11:08:37	
S863	U	USPT	methionine same (ruminant or bovine or mammal or cow)	2001-02-11 11:08:02	
S862	U	USPT	methionine same optimi$6 same milk	2001-02-11 11:06:49	
S861	U	USPT	6183786.pn.	2001-02-11 10:18:24	
[redacted]					
S858	U	USPT	[redacted]	11:24:57	
S857	U	USPT	[redacted]	2001-02-10	
S856	U	USPT	3083651.pn.	11:13:19	
S855	U	USPT	[redacted]	11:12:44	
S854	U	USPT	[redacted]	11:11:50	
S853	U	[redacted]	[redacted]	2001-02-10 11:11:45	
S852	U	[redacted]	5862344.pn.	2001-02-10 11:11:39	
[redacted]				2001-02-10 11:11:18	
S850	U	USPT	[redacted]	2001-02-10	